

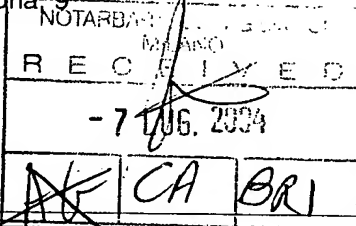
PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

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NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

05.07.2004

Applicant's or agent's file reference
3260PTWO/AG/la

IMPORTANT NOTIFICATION

International application No.
PCT/EP 03/02282

International filing date (day/month/year)
06.03.2003

Priority date (day/month/year)
08.03.2002

Applicant
COLOROBIA ITALIA S.P.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 3260PTWO/AG/1a	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/02282	International filing date (<i>day/month/year</i>) 06.03.2003	Priority date (<i>day/month/year</i>) 08.03.2002
International Patent Classification (IPC) or both national classification and IPC C09C3/06		
Applicant COLOROBIA ITALIA S.P.A. et al.		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	<p>This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>
3.	<p>This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 07.10.2003	Date of completion of this report 05.07.2004
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>	Authorized Officer Luethe, H Telephone No. +49 89 2399-7519



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/02282**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-9 as originally filed

Claims, Numbers

1-15 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

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III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-4, 6, 7, 9

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-4, 6, 7, 9 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4-6
	No: Claims	1-3, 7
Inventive step (IS)	Yes: Claims	
	No: Claims	1-15
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The subject-matter called for in claims 1-4, 6, 7 and 9 is unclear to an extent that a complete and meaningful comparison with the prior art does not seem possible at this stage (see 'Further remarks' under point V).

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

D1: WO 01 60628 A (RONA/EM INDUSTRIES, INC.) 23 August 2001 (2001-08-23);

D2: US-A-6 136 083 (INSTITUT FÜR NEUE MATERIALIEN) 24 October 2000 (2000-10-24).

2 In so far as what can be understood from the claims (but see point III above):
The present application does not satisfy the criterion set forth in Article 33 (2) PCT because the subject-matter of claims 1-3 and 7 is not new as defined in the regulations (Rule 64 (1)-(3) PCT).

Both documents D1 (cf. page 3, lines 3-9) and D2 (cf. column 1, line 34 to column 2, line 22) form, independently from each other, a novelty bar for the subject-matter of present claims 1-3 and 7, i.e. they disclose embedded pigments consisting of nanoscale chromophores embedded in a shell of refractory and transparent nanoparticles adhering to the surface of the chromophore (coating said chromophore nanoparticles).

The chromophores are crystalline.

The embedded pigments of both D1 are prepared by a process anticipating the process called for by present claim 7.

Further remarks:

3 The application does not meet the requirements of Article 6 PCT, because claims

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1-4, 7 and 9 are not clear.

- 3.1 The term 'a labile chromophore' (claims 1-4 and 9) is unclear and open to interpretation. Its significance may be, for example:
- a) thermodynamically labile (or instable),
 - b) kinetically labile,
 - c) consisting or comprising 'labile chromophores' with the following significance: their colours are not stable to air, heat, light etc.

See however the description page 3, lines 7-8.

- 3.2 The term "the labile chromophore is **in the crystal form**" (emphasis by the authorized officer) in claims 3 and 9 is unclear and open to interpretation. Its significance may be, for example:
- a) the labile chromophore is 'crystalline' (i.e. is not amorphous) or
 - b) the labile chromophore forms crystals rather than amorphous particles.
- All the chromophores called for in claims 4 and 6 are inorganic salts, and hence, they have a crystal lattice.

- 3.3 According to claim 1 is "a labile chromophore embedded in a shell of refractory and transparent material".
- It is unclear to the person skilled in the art how the 'embedded pigments called for in claim 1 could be obtained by the process detailed in claim 7.
- The term "the salts of the desired metals are added to a known volume of alcohol ..." strongly suggests that salts of all metal containing components, i.e. both
- (1) the chromophores and
 - (2) the refractory and transparent material
- are added simultaneously to the alcohol and solubilized.
- Upon hydrolyses one would expect the components (1) and (2) to precipitate more or less simultaneously forming solids of randomly mixed crystallites of (1) and (2) and **not** the embedded pigments called for in claim 1.
- An explanation is respectfully requested.

Present claim 7 does not give any indication whatsoever that in a first step the chromophore particles precipitate which then, in a second step, are covered by the embedding refractory material.

- 3.4 The findings presented under point 3.3 above are strongly supported by the fact

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that process claim 7 calls for "the preparation of the **nanometric particles** according to Claims 1 to 6" (emphasis by the authorized officer).

In contrast to that do claims 1-6 call for "Embedded pigments" comprising such "nanoparticles" and not for the nanoparticles as such.

- 3.5 Claim 6 calls for "... embedded pigments according to Claims 1 to 5 chosen in the group consisting of ...".

It is however presently not clear from the list of inorganic components (starting with "ZrSiO₄ : Fe₂O") detailed there which components should form the chromophores and which the refractory and transparent material.

- 3.6 The iron oxide "Fe₂O" (cf. claim 6) does not seem to be known in the art.

- 3.7 In Claim 7 (line 3) the term "**the** salts" (emphasis by the authorized officer) is missing antecedents.

The definite article "the" should be deleted.

- 4.1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1 and D2 is not mentioned in the description, nor is this document identified therein.

- 4.2 The "parallel patent" mentioned in the description (cf. page 2, lines 21-23) is not identified by its patent number.